

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/542, 769 A
Source: PLT
Date Processed by STIC: 03/20/2006

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PCT

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/542,769A

DATE: 03/20/2006
TIME: 12:14:06

Input Set : A:\WEICK046.APP
Output Set: N:\CRF4\03202006\J542769A.raw

3 <110> APPLICANT: BUTZKE, DANIEL
 4 GOEDERT, SIGRID
 5 DITTRICH, MICHAEL
 6 RUDEL, THOMAS
 7 MEYER, THOMAS
 9 <120> TITLE OF INVENTION: L-AMINO ACID OXIDASE WITH CYTOTOXIC ACTIVITY FROM
 10 APLYSIA PUNCTATA
 12 <130> FILE REFERENCE: WEICKM-0046
 14 <140> CURRENT APPLICATION NUMBER: 10/542,769A
 15 <141> CURRENT FILING DATE: 2005 07-20
 17 <150> PRIOR APPLICATION NUMBER: PCT/EP04/00423
 18 <151> PRIOR FILING DATE: 2004-01-20
 20 <150> PRIOR APPLICATION NUMBER: EP 03001232.2
 21 <151> PRIOR FILING DATE: 2003-01-20
 23 <150> PRIOR APPLICATION NUMBER: EP 03026613.4
 24 <151> PRIOR FILING DATE: 2003-11-19
 26 <160> NUMBER OF SEQ ID NOS: 78
 28 <170> SOFTWARE: PatentIn Ver. 3.3
 30 <210> SEQ ID NO: 1
 31 <211> LENGTH: 1608
 32 <212> TYPE: DNA
 33 <213> ORGANISM: Aplysia punctata
 35 <220> FEATURE:
 36 <221> NAME/KEY: CDS
 37 <222> LOCATION: (1)..(1608)
 39 <400> SEQUENCE: 1
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 41 Met Ser Ser Ala Val Leu Leu Leu Ala Cys Ala Leu Val Ile Ser Val
 42 1 5 10 15
 44 cac gcc gac ggt atc tgc aga aac aga cgt caa tgt aac aga gag gtg 96
 45 His Ala Asp Gly Ile Cys Arg Asn Arg Arg Gln Cys Asn Arg Glu Val
 46 20 25 30
 48 tgc ggt tct acc tac gat gtg gcc gtc gtg ggg gcg ggg cct ggg gga 144
 49 Cys Gly Ser Thr Tyr Asp Val Ala Val Val Gly Ala Gly Pro Gly Gly
 50 35 40 45
 52 gct aac tcc gcc tac atg ctg agg gac tcc ggc ctg gac atc gct gtg 192
 53 Ala Asn Ser Ala Tyr Met Leu Arg Asp Ser Gly Leu Asp Ile Ala Val
 54 50 55 60
 56 ttc gag tac tcg gac cga gtg ggc ggc cgg ctg ttc acc tac cag ctg 240
 57 Phe Glu Tyr Ser Asp Arg Val Gly Gly Arg Leu Phe Thr Tyr Gln Leu
 58 65 70 75 80
 60 ccc aac aca ccc gac gtt aac ctg gag att ggc ggc atg agg ttc atc 288
 61 Pro Asn Thr Pro Asp Val Asn Leu Glu Ile Gly Gly Met Arg Phe Ile

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62	85	90	95	
64	gaa ggc gcc atg cac agg ctc tgg agg gtc att tca gaa ctc ggc cta			336
65	Glu Gly Ala Met His Arg Leu Trp Arg Val Ile Ser Glu Leu Gly Leu			
66	100	105	110	
68	acc ccc aag gtg ttc aag gaa ggt ttc ggc aag gag ggc aga caa aga			384
69	Thr Pro Lys Val Phe Lys Glu Gly Phe Gly Lys Glu Gly Arg Gln Arg			
70	115	120	125	
72	ttt tac ctg cgg gga cag agc ctg acc aag aaa cag gtc aag agt ggg			432
73	Phe Tyr Leu Arg Gly Gln Ser Leu Thr Lys Lys Gln Val Lys Ser Gly			
74	130	135	140	
76	gac gta ccc tat gac ctc agc ccg gag gag aaa gaa aac cag gga aat			480
77	Asp Val Pro Tyr Asp Leu Ser Pro Glu Glu Lys Glu Asn Gln Gly Asn			
78	145	150	155	160
80	ctg gtc gaa tac tac ctg gag aaa ctg aca ggt cta caa ctc aac ggc			528
81	Leu Val Glu Tyr Tyr Leu Glu Lys Leu Thr Gly Leu Gln Leu Asn Gly			
82	165	170	175	
84	gag ccg ctc aaa cgt gag gtt gcg ctt aaa cta acc gtg ccg gac ggc			576
85	Glu Pro Leu Lys Arg Glu Val Ala Leu Lys Leu Thr Val Pro Asp Gly			
86	180	185	190	
88	aga ttc ctc tat gac ctc tcg ttt gac gaa gcc atg gat ctg gtt gcc			624
89	Arg Phe Leu Tyr Asp Leu Ser Phe Asp Glu Ala Met Asp Leu Val Ala			
90	195	200	205	
92	tcc cct gag ggc aaa gag ttc acc cga gac acg cac gtc ttc aca gga			672
93	Ser Pro Glu Gly Lys Glu Phe Thr Arg Asp Thr His Val Phe Thr Gly			
94	210	215	220	
96	gag gtc acc ctg gac gcg tcg gct gtc tcc ctc ttc gac gac cac ctg			720
97	Glu Val Thr Leu Asp Ala Ser Ala Val Ser Leu Phe Asp Asp His Leu			
98	225	230	235	240
100	gga gag gac tac tat ggc agt gag atc tac acc cta aag gaa gga ctg			768
101	Gly Glu Asp Tyr Tyr Gly Ser Glu Ile Tyr Thr Leu Lys Glu Gly Leu			
102	245	250	255	
104	tct tcc gtc cca caa ggg ctc cta cag gct ttt ctg gac gcc gca gac			816
105	Ser Ser Val Pro Gln Gly Leu Leu Gln Ala Phe Leu Asp Ala Ala Asp			
106	260	265	270	
108	tcc aac gag ttc tat ccc aac agc cac ctg aag gcc ctg aga cgt aag			864
109	Ser Asn Glu Phe Tyr Pro Asn Ser His Leu Lys Ala Leu Arg Arg Lys			
110	275	280	285	
112	acc aac ggt cag tat gtt ctt tac ttt gag ccc acc acc tcc aag gat			912
113	Thr Asn Gly Gln Tyr Val Leu Tyr Phe Glu Pro Thr Thr Ser Lys Asp			
114	290	295	300	
116	gga caa acc aca atc aac tat ctg gaa ccc ctg cag gtt gtg tgt gca			960
117	Gly Gln Thr Thr Ile Asn Tyr Leu Glu Pro Leu Gln Val Val Cys Ala			
118	305	310	315	320
120	caa aga gtc atc ctg gcc atg ccg gta tac gct ctg aac caa cta gac			1008
121	Gln Arg Val Ile Leu Ala Met Pro Val Tyr Ala Leu Asn Gln Leu Asp			
122	325	330	335	
124	tgg aat cag ctc aga aat gac cga gcc acc caa gcg tac gct gcc gtt			1056
125	Trp Asn Gln Leu Arg Asn Asp Arg Ala Thr Gln Ala Tyr Ala Ala Val			
126	340	345	350	

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128	cgc	ccg	att	cct	gca	agt	aag	gtg	ttc	atg	tcc	ttt	gat	cag	ccc	tgg	1104	
129	Arg	Pro	Ile	Pro	Ala	Ser	Lys	Val	Phe	Met	Ser	Phe	Asp	Gln	Pro	Trp		
130																365		
132	tgg	ttg	gag	aac	gag	agg	aaa	tcc	tgg	gtc	acc	aag	tcg	gac	gcg	ctt	1152	
133	Trp	Leu	Glu	Asn	Glu	Arg	Lys	Ser	Trp	Val	Thr	Lys	Ser	Asp	Ala	Leu		
134																380		
136	ttc	agc	caa	atg	tac	gac	tgg	cag	aag	tct	gag	gcg	tcc	gga	gac	tac	1200	
137	Phe	Ser	Gln	Met	Tyr	Asp	Trp	Gln	Lys	Ser	Glu	Ala	Ser	Gly	Asp	Tyr		
138																400		
140	atc	ctg	atc	gcc	agc	tac	gcc	gac	ggc	ctc	aaa	gcc	cag	tac	ctg	cgg	1248	
141	Ile	Leu	Ile	Ala	Ser	Tyr	Ala	Asp	Gly	Leu	Lys	Ala	Gln	Tyr	Leu	Arg		
142																415		
144	gag	ctg	aag	aat	cag	gga	gag	gac	atc	cca	ggc	tct	gac	cca	ggc	tac	1296	
145	Glu	Leu	Lys	Asn	Gln	Gly	Glu	Asp	Ile	Pro	Gly	Ser	Asp	Pro	Gly	Tyr		
146																430		
148	aac	cag	gtt	acc	gaa	ccc	ctc	aag	gac	acc	att	ctt	gac	cac	ctc	act	1344	
149	Asn	Gln	Val	Thr	Glu	Pro	Leu	Lys	Asp	Thr	Ile	Leu	Asp	His	Leu	Thr		
150																445		
152	gag	gct	tat	ggc	gtg	ggg	cga	gac	tcg	atc	ccg	gaa	ccc	gtg	acc	gac	1392	
153	Glu	Ala	Tyr	Gly	Vai	Glu	Arg	Asp	Ser	Ile	Pro	Glu	Pro	Val	Thr	Ala		
154																460		
156	gct	tcc	cag	tcc	tgg	aca	gac	tac	ccg	ttt	ggc	tgt	gga	tgg	atc	acc	1440	
157	Ala	Ser	Gln	Phe	Trp	Thr	Asp	Tyr	Pro	Phe	Gly	Cys	Gly	Trp	Ile	Thr		
158																480		
160	tgg	agg	gcc	ggc	tcc	cat	tcc	gat	gac	gtc	atc	agc	acc	atg	cgt	cgc	1488	
161	Trp	Arg	Ala	Gly	Phe	His	Phe	Asp	Asp	Val	Ile	Ser	Thr	Met	Arg	Arg		
162																495		
164	ccg	tca	ctg	aaa	gat	gag	gta	tac	gtg	gtg	gga	gcc	gac	tac	tcc	tgg	1536	
165	Pro	Ser	Leu	Lys	Asp	Glu	Val	Tyr	Val	Val	Gly	Ala	Asp	Tyr	Ser	Trp		
166																510		
168	gga	ctt	atc	tcc	tcc	tgg	ata	gag	ggc	gct	ctg	gag	acc	tcg	gaa	aac	1584	
169	Gly	Leu	Ile	Ser	Ser	Trp	Ile	Glu	Gly	Ala	Leu	Glu	Thr	Ser	Glu	Asn		
170																525		
172	gtc	atc	aac	gac	tac	tcc	ctc	taa									1608	
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187																30		
187																30		
189	Cys	Gly	Ser	Thr	Tyr	Asp	Val	Ala	Val	Val	Gly	Ala	Gly	Pro	Gly	Gly		
190																45		
192	Ala	Asn	Ser	Ala	Tyr	Met	Leu	Arg	Asp	Ser	Gly	Leu	Asp	Ile	Ala	Val		
193																60		
193																		

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Input Set : A:\WEICK046.APP
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195 Phe Glu Tyr Ser Asp Arg Val Gly Gly Arg Leu Phe Thr Tyr Gln Leu
 196 65 70 75 80
 198 Pro Asn Thr Pro Asp Val Asn Leu Glu Ile Gly Gly Met Arg Phe Ile
 199 85 90 95
 201 Glu Gly Ala Met His Arg Leu Trp Arg Val Ile Ser Glu Leu Gly Leu
 202 100 105 110
 204 Thr Pro Lys Val Phe Lys Glu Gly Phe Gly Lys Glu Gly Arg Gln Arg
 205 115 120 125
 207 Phe Tyr Leu Arg Gly Gln Ser Leu Thr Lys Lys Gln Val Lys Ser Gly
 208 130 135 140
 210 Asp Val Pro Tyr Asp Leu Ser Pro Glu Glu Lys Glu Asn Gln Gly Asn
 211 145 150 155 160
 213 Leu Val Glu Tyr Tyr Leu Glu Lys Leu Thr Gly Leu Gln Leu Asn Gly
 214 165 170 175
 216 Glu Pro Leu Lys Arg Glu Val Ala Leu Lys Leu Thr Val Pro Asp Gly
 217 180 185 190
 219 Arg Phe Leu Tyr Asp Leu Ser Phe Asp Glu Ala Met Asp Leu Val Ala
 220 195 200 205
 222 Ser Pro Glu Gly Lys Glu Phe Thr Arg Asp Thr His Val Phe Thr Gly
 223 210 215 220
 225 Glu Val Thr Leu Asp Ala Ser Ala Val Ser Leu Phe Asp Asp His Leu
 226 225 230 235 240
 228 Gly Glu Asp Tyr Tyr Gly Ser Glu Ile Tyr Thr Leu Lys Glu Gly Leu
 229 245 250 255
 231 Ser Ser Val Pro Gln Gly Leu Leu Gln Ala Phe Leu Asp Ala Ala Asp
 232 260 265 270
 234 Ser Asn Glu Phe Tyr Pro Asn Ser His Leu Lys Ala Leu Arg Arg Lys
 235 275 280 285
 237 Thr Asn Gly Gln Tyr Val Leu Tyr Phe Glu Pro Thr Thr Ser Lys Asp
 238 290 295 300
 240 Gly Gln Thr Thr Ile Asn Tyr Leu Glu Pro Leu Gln Val Val Cys Ala
 241 305 310 315 320
 243 Gln Arg Val Ile Leu Ala Met Pro Val Tyr Ala Leu Asn Gln Leu Asp
 244 325 330 335
 246 Trp Asn Gln Leu Arg Asn Asp Arg Ala Thr Gln Ala Tyr Ala Val
 247 340 345 350
 249 Arg Pro Ile Pro Ala Ser Lys Val Phe Met Ser Phe Asp Gln Pro Trp
 250 355 360 365
 252 Trp Leu Glu Asn Glu Arg Lys Ser Trp Val Thr Lys Ser Asp Ala Leu
 253 370 375 380
 255 Phe Ser Gln Met Tyr Asp Trp Gln Lys Ser Glu Ala Ser Gly Asp Tyr
 256 385 390 395 400
 258 Ile Leu Ile Ala Ser Tyr Ala Asp Gly Leu Lys Ala Gln Tyr Leu Arg
 259 405 410 415
 261 Glu Leu Lys Asn Gln Gly Glu Asp Ile Pro Gly Ser Asp Pro Gly Tyr
 262 420 425 430
 264 Asn Gln Val Thr Glu Pro Leu Lys Asp Thr Ile Leu Asp His Leu Thr
 265 435 440 445
 267 Glu Ala Tyr Gly Val Glu Arg Asp Ser Ile Pro Glu Pro Val Thr Ala

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268	450	455	460	
270	Ala Ser Gln Phe Trp Thr Asp Tyr Pro Phe Gly Cys Gly Trp Ile Thr			
271	465	470	475	480
273	Trp Arg Ala Gly Phe His Phe Asp Asp Val Ile Ser Thr Met Arg Arg			
274	485	490	495	
276	Pro Ser Leu Lys Asp Glu Val Tyr Val Val Gly Ala Asp Tyr Ser Trp			
277	500	505	510	
279	Gly Leu Ile Ser Ser Trp Ile Glu Gly Ala Leu Glu Thr Ser Glu Asn			
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283	530	535		
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290	<213> ORGANISM: Aplysia punctata			
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298	Ser Ser Ala Val Leu Leu Leu Ala Cys Ala Leu Val Ile Ser Val His			
299	1	5	10	15
301	gcc gac ggt gtc tgc aga aac aga cgt caa tgt aac aga gag gtg tgc	96		
302	Ala Asp Gly Val Cys Arg Asn Arg Gln Cys Asn Arg Glu Val Cys			
303	20	25	30	
305	ggg tct acc tac gat gtg gcc gtc gtg ggg ggc ggg cct ggg gga gct	144		
306	Gly Ser Thr Tyr Asp Val Ala Val Val Gly Ala Gly Pro Gly Gly Ala			
307	35	40	45	
309	aac tcc gcc tac atg ctg agg gac tcc ggc ctg gac atc gct gtg ttc	192		
310	Asn Ser Ala Tyr Met Leu Arg Asp Ser Gly Leu Asp Ile Ala Val Phe			
311	50	55	60	
313	gag tac tca gac cga gtg ggc ggc cgg ctg ttc acc tac cag ctg ccc	240		
314	Glu Tyr Ser Asp Arg Val Gly Gly Arg Leu Phe Thr Tyr Gln Leu Pro			
315	65	70	75	80
317	aac aca ccc gac gtt aat ctc gag att ggc ggc atg agg ttc atc gag	288		
318	Asn Thr Pro Asp Val Asn Leu Glu Ile Gly Gly Met Arg Phe Ile Glu			
319	85	90	95	
321	ggc gcc atg cac agg ctc tgg agg gtc att tca gaa ctc ggc cta acc	336		
322	Gly Ala Met His Arg Leu Trp Arg Val Ile Ser Glu Leu Gly Leu Thr			
323	100	105	110	
325	ccc aag gtg ttc aag gaa ggt ttc gga aag gag ggc aga cag aga ttt	384		
326	Pro Lys Val Phe Lys Glu Gly Phe Gly Lys Glu Gly Arg Gln Arg Phe			
327	115	120	125	
329	tac ctg cgg gga cag agc ctg acc aag aaa cag gtc aag agt ggg gac	432		
330	Tyr Leu Arg Gly Gln Ser Leu Thr Lys Lys Gln Val Lys Ser Gly Asp			
331	130	135	140	
333	gta ccc tat gac ctc agc ccg gag gag aaa gaa aac cag gga aat ctg	480		
334	Val Pro Tyr Asp Leu Ser Pro Glu Glu Lys Glu Asn Gln Gly Asn Leu			
335	145	150	155	160

RAW SEQUENCE LISTING ERROR SUMMARY
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

/ / / /

Seq#:33; Xaa Pos. 1,3,7,9
Seq#:35; Xaa Pos. 5
Seq#:36; Xaa Pos. 6,7
Seq#:42; N Pos. 20,22,58,73,132,150,182,220,254,317,338
Seq#:43; Xaa Pos. 7,8,20,25,44,50,58,59,61,74,85,106,107,112,113,132,133
Seq#:43; Xaa Pos. 137,145
Seq#:44; Xaa Pos. 7,19,24,44,50,61,73,85,106,109,113,127,138
Seq#:45; Xaa Pos. 6,7,19,24,33,44,50,60,73,84,105,112,113,133
Seq#:46; Xaa Pos. 3
Seq#:49; Xaa Pos. 3
Seq#:51; Xaa Pos. 5
Seq#:59; N Pos. 17
Seq#:63; N Pos. 24,25,29,30,34,35
Seq#:76; Xaa Pos. 7,8
Seq#:77; Xaa Pos. 1
Seq#:78; Xaa Pos. 21,22,52,60,69,77

VERIFICATION SUMMARY

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Input Set : A:\WEICK046.APP

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L:1251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0
L:1276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0
L:1296 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0
L:1444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0
L:1445 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:60
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L:1530 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0
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L:1548 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:96
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L:1647 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:80
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L:1653 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:112
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L:2014 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:63 after pos.:0
L:2205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:76 after pos.:0
L:2220 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:77 after pos.:0
L:2258 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:16
L:2264 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:48
L:2267 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:78 after pos.:64